

SERVICE MANUAL

MODEL No. **HS-T23,
T230**

- AM/FM STEREO RADIO CASSETTE PLAYER
- TYPE. Y
- BASIC MECHANISM : TN-52S



MODEL No. **HS-T26,
T260**

- AM/FM STEREO RADIO CASSETTE PLAYER
- TYPE. Y
- BASIC MECHANISM : TN-52S



SPECIFICATIONS

Frequency range: FM: 87.5-108 MHz
AM: 530-1,605 KHz
Track configuration: 4-track, 2-channel stereo
Frequency range: 40 to 12,500 Hz (NORMAL tape)
40 to 16,000 Hz (METAL tape)
Maximum output: 15 mW + 15mW (EIAJ/32Ω)
Power source: Battery DC 3V R6P
(SUM-3, AA, LR-6) × 2
Domestic AC power
(using optional AC adapter)

Battery life:

- Using manganese batteries (R6P, SUM-3, AA)
Approx. 3.5 hours (EIAJ, 1 mW output, playback mode)
- Using alkaline batteries (LR-6, AA) Approx. 7 hours (EIAJ, 1 mW output, playback mode)

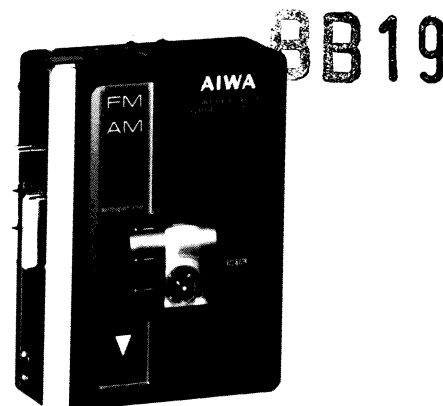
Maximum dimensions: 91.5(H) × 118.4(W) × 38.4(D)mm
Weight: 297g (including batteries)

- Design and specifications are subject to change without notice.
- Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.
- Dolby and the  symbol are trademarks of Dolby Laboratories Licensing Corporation.

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MODEL No. **HS-T26,
T260**

- AM/FM STEREO RADIO CASSETTE PLAYER
- TYPE. Y
- BASIC MECHANISM : TN-52S



SPECIFICATIONS

Frequency range: FM: 87.5 - 108 MHz
AM: 530 - 1,605 KHz
Track configuration: 4-track, 2-channel stereo
Frequency range: 40 to 12,500 Hz (NORMAL tape)
40 to 16,000 Hz (METAL tape)
Maximum output: 15 mW + 15mW (EIAJ/32Ω)
Power source: Battery DC 3V R6P
(SUM-3, AA, LR-6) × 2
Domestic AC power
(using optional AC adapter)

Battery life:

- Using manganese batteries (R6P, SUM-3, AA)
Approx. 3.5 hours (EIAJ, 1 mW output, playback mode)
- Using alkaline batteries (LR-6, AA)
Approx. 7 hours (EIAJ, 1 mW output, playback mode)

Maximum dimensions: 91.5(H) × 118.4(W) × 38.4(D)mm
Weight: 297g (including batteries)

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As to the disassembl instructions, refer to the service manual of HS-G35MKII and HS-G36.

■ ACCESSORIES/PACKAGE LIST

PART NO. CHANGED TO	REF. NO.	PART NO.	ORDER	DESCRIPTION	COMMON MODEL	Q, TY
	1	★84-447-019-010		CLIP, BELT	HS-T36/T06MKII	1
	2	★87-048-127-010		HP-M12 (EXCEPT Y1)		1
	3	★87-048-138-010		HP-09K (Y1)		1

Note) Operating Instruction is printed on the board of package.

ELECTRICAL MAIN PARTS LIST

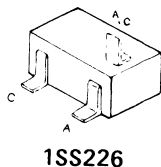
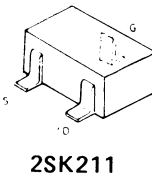
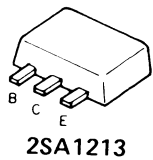
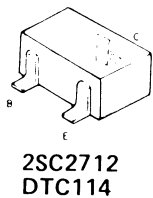
REF.NO.	PART NO.	ORDER	DESCRIPTION
--- IC ---			
	87-020-459-010		IC,BA1102F(T26/T260)
	87-020-460-010		IC,CX20111
	87-020-447-010		IC,TA7373F
	87-020-234-010		IC,TA7688F(S)
	87-020-235-010		IC,TA7709F(S)
--- TRANSISTOR ---			
	89-502-113-010		FET,2SK211 O
	87-026-213-010		TRANSISTOR,DTC114Y
	89-112-134-010		TRANSISTOR,2SA1213Y
	89-327-124-010		TRANSISTOR,2SC2712Y
--- MAIN CIRCUIT BOARD SECTION ---			
PCB-A	84-400-601-010		MAIN CIRCUIT BOARD(T26/T260)
PCB-A	84-445-601-010		MAIN CIRCUIT BOARD(T23/T230)
BPF1	*87-030-136-010		FILTER BPMB 8L
C1	*87-010-147-010		CAP,CHIP S 3P
C2	*87-010-315-010		CAP,CHIP S 27P CH
C3	*87-010-149-010		CAP,CHIP S 5P
C4	*87-010-091-010		CAP,CHIP 22P CH
C5	*87-010-315-010		CAP,CHIP S 27P CH
C6	*87-010-197-010		CAP,CHIP 0.01DM
C7	*87-010-197-010		CAP,CHIP 0.01DM
C8	*87-010-498-010		CAP,ELECT GAS 10-16
C9	*87-010-197-010		CAP,CHIP 0.01DM
C10	*87-010-194-010		CAP,CHIP 0.047
C11	*87-010-193-010		CAP,CHIP 0.033
C12	*87-010-502-010		CAP,ELECT GAS 100-4
C13	*87-010-498-010		CAP,ELECT GAS 10-16
C14	*87-010-495-010		CAP,ELECT GAS 2.2-50
C15	*87-010-495-010		CAP,ELECT GAS 2.2-50
C16	*87-010-197-010		CAP,CHIP 0.01DM
C17	*87-010-197-010		CAP,CHIP 0.01DM
C18	*87-010-495-010		CAP,ELECT GAS 2.2-50
C19	*87-010-495-010		CAP,ELECT GAS 2.2-50
C20	*87-010-495-010		CAP,ELECT GAS 2.2-50
C21	*87-010-189-010		CAP,CHIP S 8200P
C22	*87-010-189-010		CAP,CHIP S 8200P
C23	*87-010-194-010		CAP,CHIP 0.047
C24	*87-010-194-010		CAP,CHIP 0.047
C25	*87-010-196-010		CAP,CHIP 0.1
C26	*87-014-047-010		CAP, PP 390P
C27	*87-015-768-010		CAP,CHIP 220P
C28	*87-010-321-010		CAP,CHIP 82P CH
C101	*87-010-178-010		CAP,CHIP 1000P
C102	*87-010-178-010		CAP,CHIP 1000P
C103	*87-010-220-010		CAP,CHIP 0.018
C104	*87-010-220-010		CAP,CHIP 0.018
C105	*87-010-501-010		CAP,ELECT GAS 47-4
C106	*87-010-501-010		CAP,ELECT GAS 47-4
C107	*87-010-220-010		CAP,CHIP 0.018
C108	*87-010-220-010		CAP,CHIP 0.018
C109	*87-010-495-010		CAP,ELECT GAS 2.2-50
C110	*87-010-495-010		CAP,ELECT GAS 2.2-50
C111	*87-010-178-010		CAP,CHIP 1000P(T26/T260)
C112	*87-010-178-010		CAP,CHIP 1000P(T26/T260)
C113	*87-010-178-010		CAP,CHIP 1000P(T26/T260)
C114	*87-010-178-010		CAP,CHIP 1000P(T26/T260)
C115	*87-010-193-010		CAP,CHIP 0.033(T26/T260)
C116	*87-010-193-010		CAP,CHIP 0.033(T26/T260)
C117	*87-010-186-010		CAP,CHIP 4700P(T26/T260)
C118	*87-010-186-010		CAP,CHIP 4700P(T26/T260)

Note

When placing an order for service parts, always enter the parts code number up to the last numeral on the service parts ordering sheet.

REF.NO.	PART NO.	ORDER	DESCRIPTION
C119	*87-010-495-010		CAP,ELECT GAS 2.2-50(T26/T260)
C120	*87-010-495-010		CAP,ELECT GAS 2.2-50(T26/T260)
C121	*87-010-197-010		CAP,CHIP 0.01DM(T26/T260)
C122	*87-010-197-010		CAP,CHIP 0.01DM(T26/T260)
C123	*87-010-193-010		CAP,CHIP 0.033(T26/T260)
C124	*87-010-193-010		CAP,CHIP 0.033(T26/T260)
C125	*87-010-196-010		CAP,CHIP 0.1(T26/T260)
C126	*87-010-196-010		CAP,CHIP 0.1(T26/T260)
C127	*87-010-495-010		CAP,ELECT GAS 2.2-50
C128	*87-010-495-010		CAP,ELECT GAS 2.2-50
C129	*87-010-178-010		CAP,CHIP 1000P
C130	*87-010-178-010		CAP,CHIP 1000P
C131	*87-010-503-010		CAP,ELECT GAS 220-4
C132	*87-010-503-010		CAP,ELECT GAS 220-4
C133	*87-010-109-010		CAP,CHIP 0.22
C134	*87-010-109-010		CAP,CHIP 0.22
C135	*87-010-501-010		CAP,ELECT GAS 47-4
C136	*87-010-501-010		CAP,ELECT GAS 47-4
C137	*87-010-503-010		CAP,ELECT GAS 220-4(T26/T260)
C138	*87-010-501-010		CAP,ELECT GAS 47-4
C140	*87-010-501-010		CAP,ELECT GAS 47-4
C141	*87-010-503-010		CAP,ELECT GAS 220-4
C142	*87-010-495-010		CAP,ELECT GAS 2.2-50
C143	*87-010-503-010		CAP,ELECT GAS 220-4
C144	*87-010-196-010		CAP,CHIP 0.1
C145	*87-010-321-010		CAP,CHIP 82P CH
C147	*87-015-738-010		CAP,TANTALUM 33-4
CF1	*84-400-602-010		FM IF KIT DISCRI(SFT 10.7MS2Z)
CF3	+++		FM IF KIT DISCRI(CDA 10.7MG1Z)
CF2	*87-008-284-010		FILTER PFB 468J
D1	87-020-339-010		DIODE,CHIP 1SS 226
J1	87-049-549-010		JACK DC(DC 3V)
J2	87-049-861-010		JACK 3.5ST 2.5MM(PHONES)
L1	*87-005-264-010		COIL,CHIP 22UH
L2	*87-005-264-010		COIL,CHIP 22UH
L3	*87-003-134-010		COIL 1.5UH (S)
L4	*87-003-159-010		COIL 47UH
L5	*87-007-180-010		COIL LOADING 4T
L6	*87-006-089-010		COIL BAR ANT AM
L7	*87-007-130-010		COIL OSC AM
L8	*87-006-094-010		COIL OSC FM
L9	*87-006-090-010		COIL ANT FM
L10	*87-008-285-010		IFT AM
LED1	*87-027-636-010		LED TLR-226(OPE/BATT)
R139	*87-022-040-010		PTR XJ 1/8W 0.82/4300
S1	87-031-986-010		SLIDE SW (POWER OFF/TAPE,RADIO)
S2	87-031-816-010		SLIDE SW (ST/MONO,METAL/NORMAL)
S3	87-031-816-010		SLIDE SW(DOLBY NR ON/OFF,FM/AM) (T26/T260)
S3	87-031-816-010		SLIDE SW(FM/AM)(T23/T230)
SFR1	*87-021-883-010		SFR 500B(T26/T260)
SFR2	*87-021-883-010		SFR 500B(T26/T260)
SFR3	*87-021-677-010		SFR 10KB
SFR4	*87-021-932-010		SFR 10KB
TC1	*87-011-174-010		PVC
TC2	+++		PVC
TC3	+++		PVC
TC4	+++		PVC
VC1	+++		PVC
VC2	+++		PVC
VC3	+++		PVC
VC4	+++		PVC

REF.NO.	PART NO.	ORDER	DESCRIPTION
TH1	*87-026-222-010		THERMISTOR HT-50K
VR1	81-198-615-010		VOLUME 10KA(VOL)
--- MISCELLANEOUS ---			
M1	S6-005-070-110		MOTOR
PH	S6-201-030-400		HEAD
S4	S6-417-010-900		LEAF SW(PLAY)



MOTOR AND GOVERNOR MATCHING ADJ

To discriminate whether load adjustment is necessary or not

Perform the STOP → PLAY and REVERSE operations (or PAUSE ON → OFF) after the motor is replaced. When the tape starts running smooth, this adjustment is not necessary. If wow is conspicuous at the begining of the tape-run, perform this adjustment following the procedure below.

Simple load adjustment (See the SCHEMATIC and WIRING DIAGRAMS)

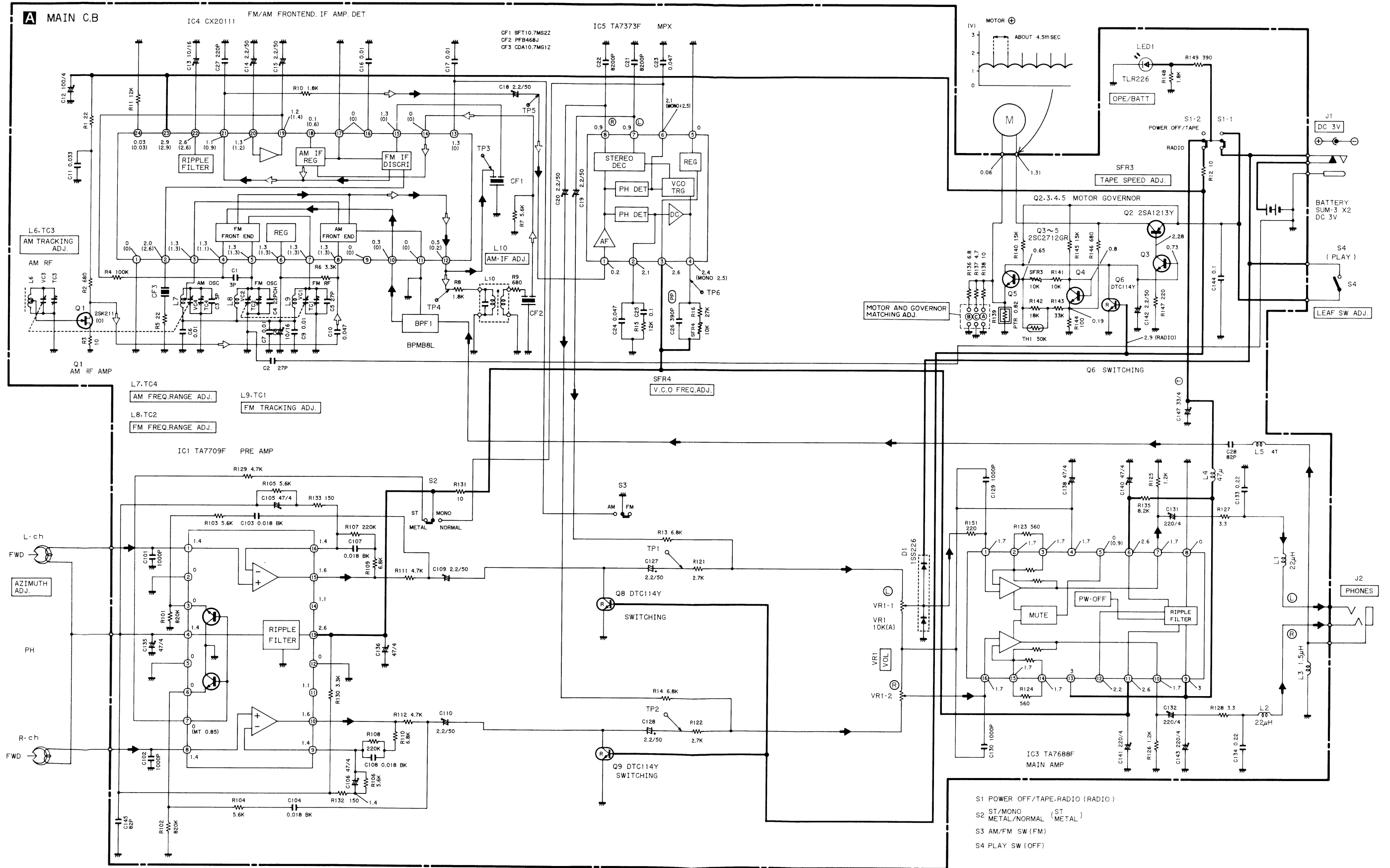
- Solder only medium resistor pattern (B) of the MOTOR AND GOVERNOR MATCHING ADJ. resistor group.
- Set the tape speed (using speed adjustment SFR).
- Restrict the motor rotation by hand (or turn PAUSE ON).
- Remove your hand and listen to the begining of the tape-run.
- When the rise of tape running is smooth, no more adjustment is necessary. If wow continues for 1 to 2 seconds at the rise time, reduce the combined resistance according to procedure 6 and check that the tape starts running smooth.
- Solder the resistor pattern according to the table below.

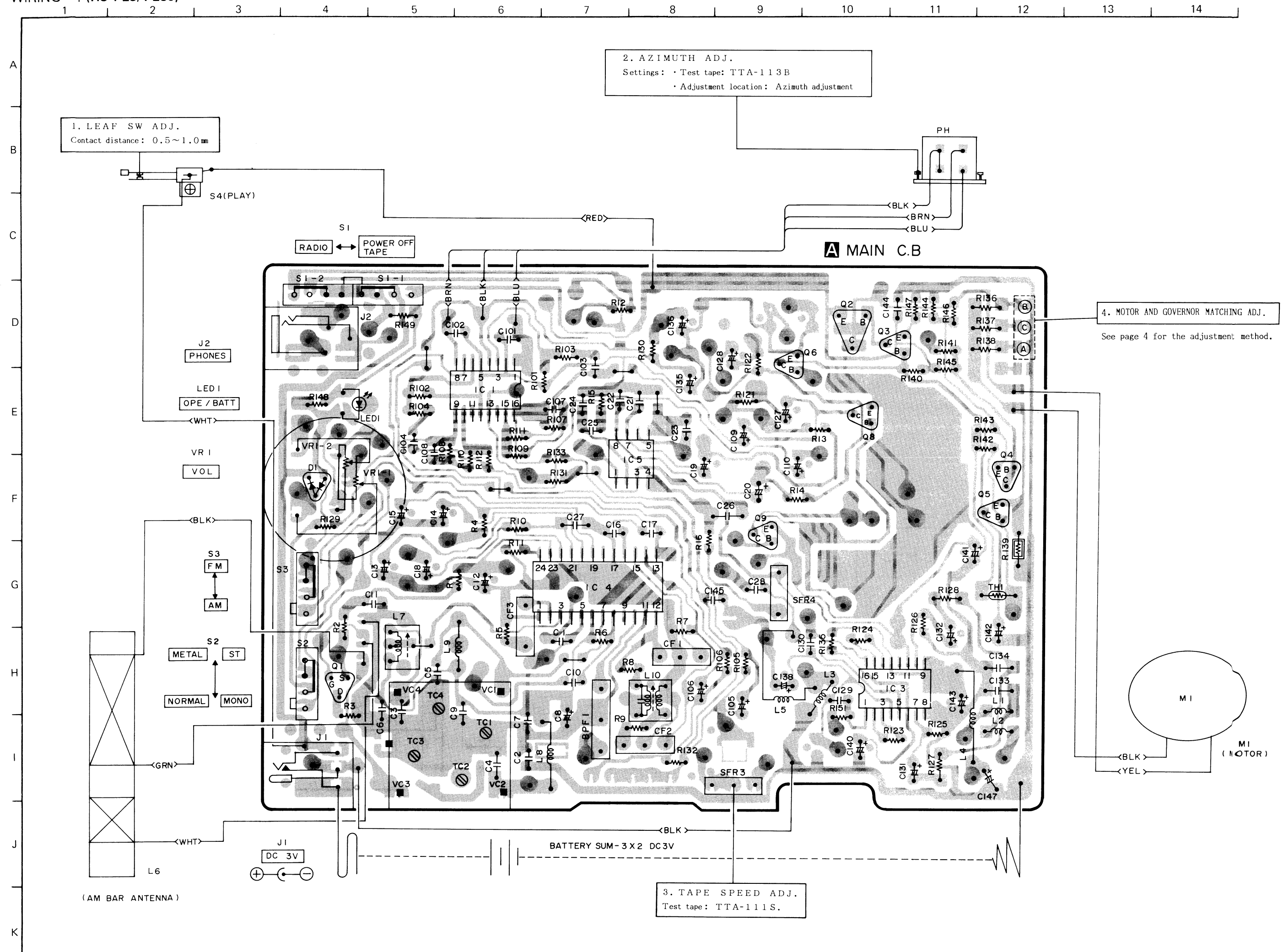
Pattern	(Procedure 1 above)	Step(i)	Step(ii)	Step(iii)
High resis- tance (A)	Open	Open	Solder	Open
Medium resis- tance (B)	Solder	Open	Open	Solder
Low resis- tance (C)	Open	Solder	Solder	Solder

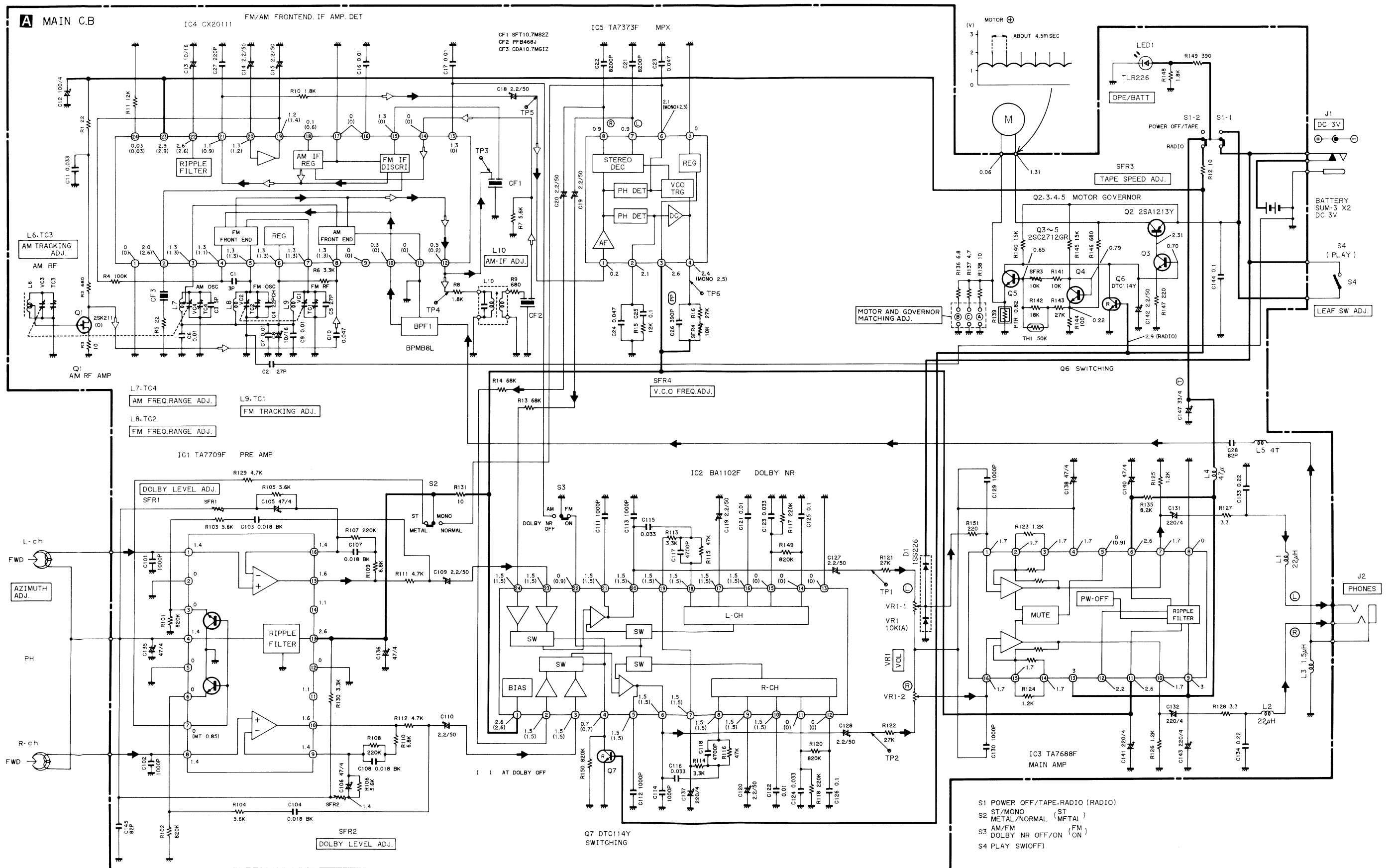
- Finally re-check the tape speed.

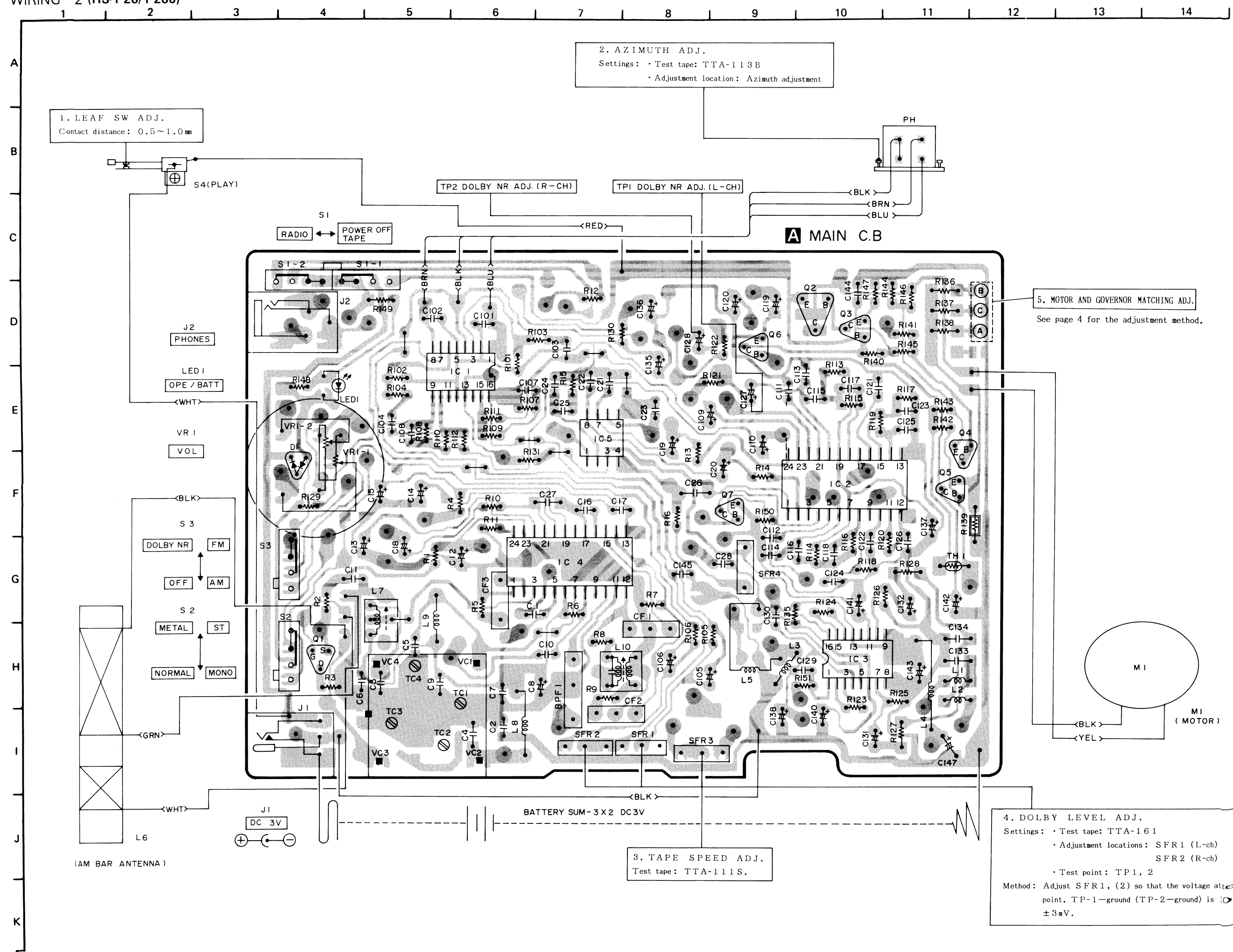
Caution: Cool the patterns down to normal temperature after soldering.

If the pattern remains heated, the governor circuit does not operate normally.

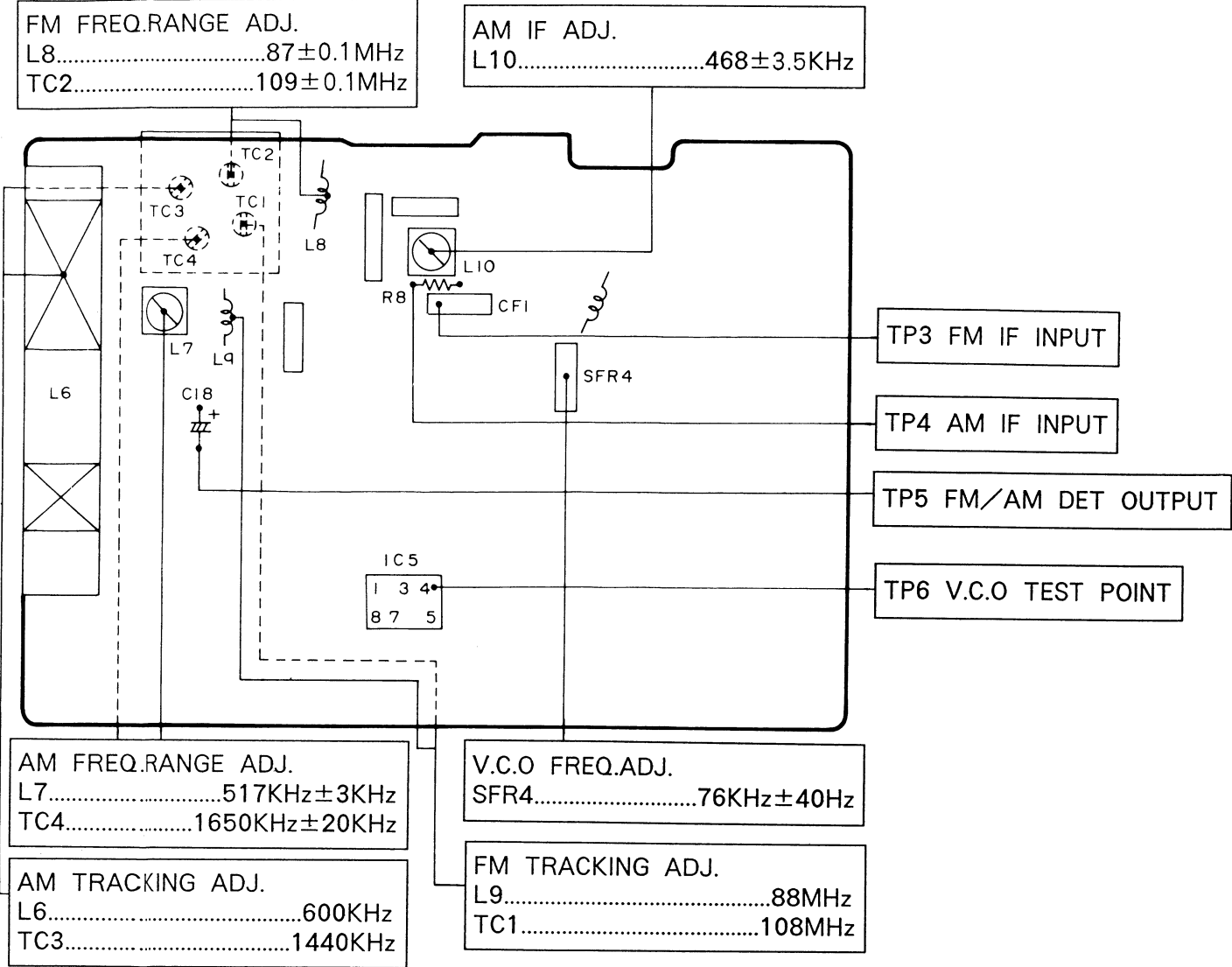








ADJUSTMENT (HS-T 23/T 230) (HS-T 26/T 260)



PRACTICAL SERVICE FIGURE

<RADIO SECTION>

Sensitivity:

(IHF, THD 3%) FM $15\pm 5\text{dB}$ (100MHz)
(S/N 10dB) AM $48\pm 3\text{dB}$ (1000KHz)

Intermediate frequency: FM $10.7\pm 0.1\text{MHz}$
AM $468\pm 3.5\text{KHz}$

<TAPE SECTION>

Wow & flutter: Less than 0.45% (JIS RMS)

Play torque: 25~55g-cm

F.F/REW torque: 50~120g-cm

Back tension: 1.5~4.5g-cm

Signal to noise ratio: $48\pm 4\text{dB}$ (DC, AC)

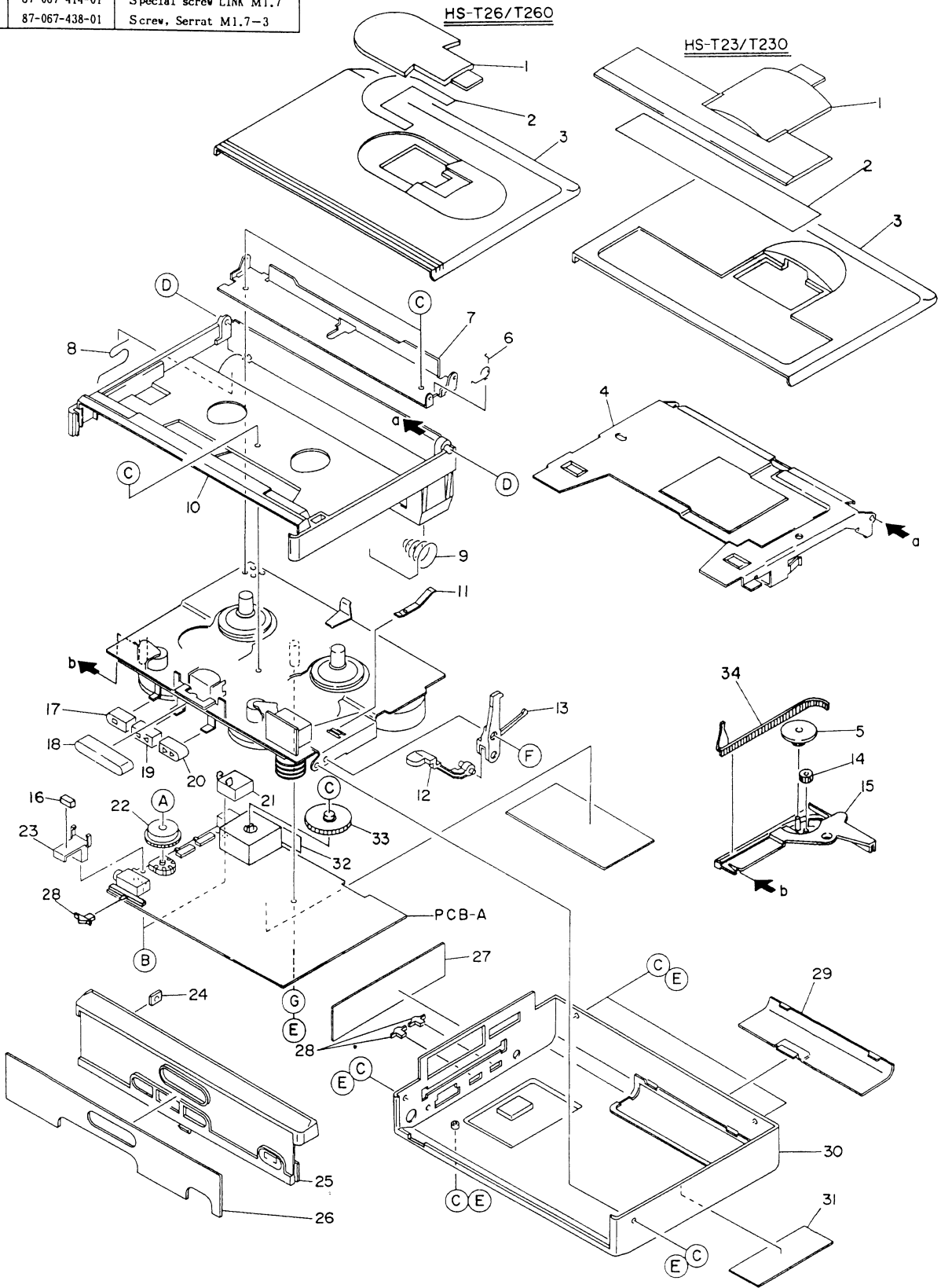
Distortion: Less than 4%

Noise: Less than 9mV
(DC, AC, VOL. MAX.)

Channel balance: Less than 3dB

EXPLODED VIEW-1

REF. NO.	PART NO.	DESCRIPTION
A	87-264-505-31	V+1.4-2.5
B	87-357-529-31	V T, +1.7-4
C	87-261-528-31	V+1.7-3.5 (B)
D	87-067-351-01	Special screw M1.4 (B)
E	87-263-528-31	V+1.7-3.5
F	87-067-414-01	Special screw LINK M1.7
G	87-067-438-01	Screw, Serrat M1.7-3

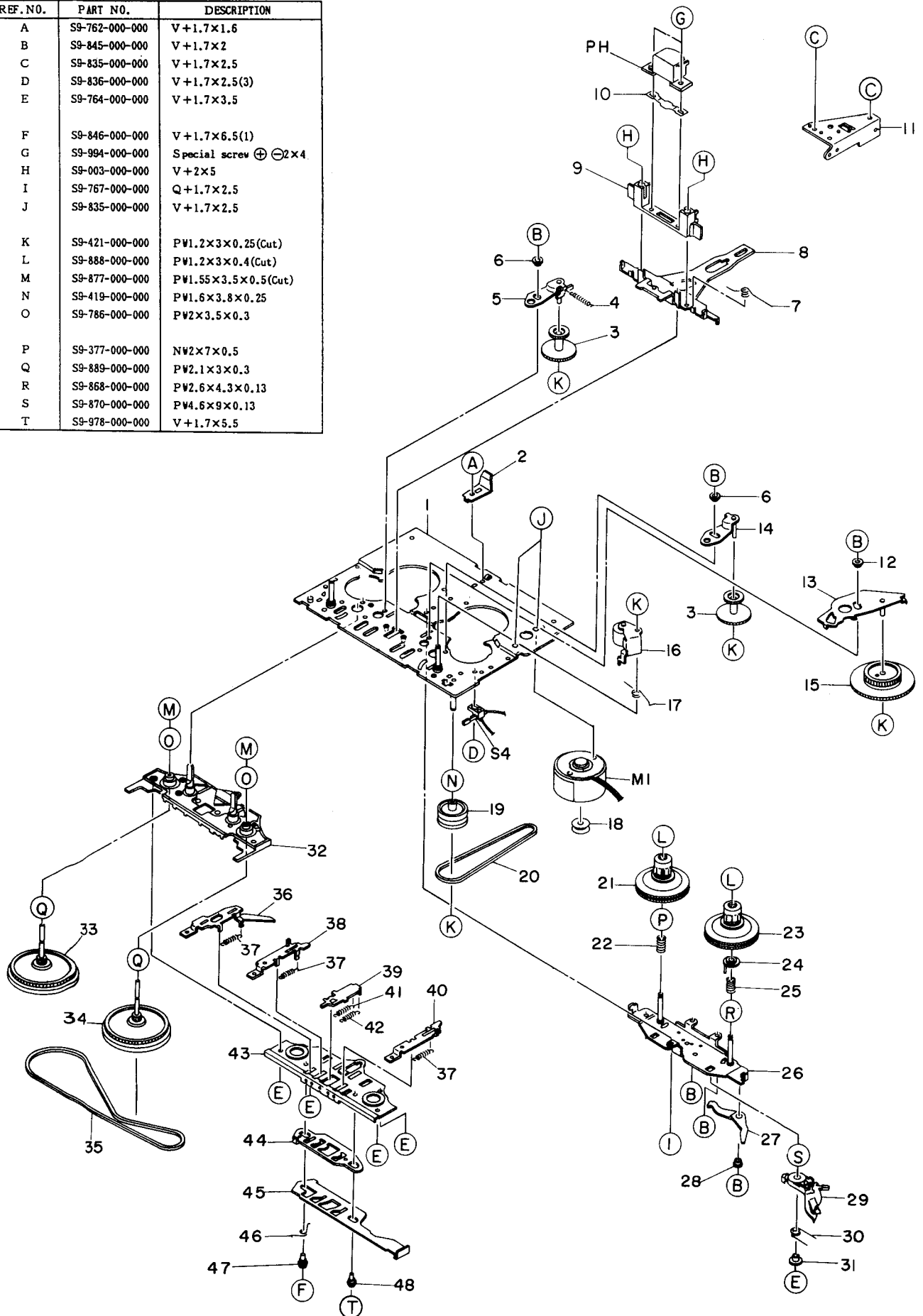


MECHANICAL PARTS LIST

PART NO. CHANGED TO	REF. NO.	PART NO.	ORDER	DESCRIPTION	COMMON MODEL	Q, TY
	1-1	84-455-003-010		WINDOW,CASSETTE L (HS-T23/T230)	*	1
	1-1	84-455-004-010		WINDOW,CASSETTE H(B) (HS-T26/T260)	*	1
	1-1	84-455-021-010		WINDOW,CASSETTE H(S) (HS-T26)	*	1
	1-1	84-455-022-010		WINDOW,CASSETTE H(WR) (HS-T26)	*	1
	1-2	84-455-202-010		ADHESIVE,WINDOW L (HS-T23/T230)	*	1
	1-2	84-455-203-010		ADHESIVE,WINDOW H (HS-T26/T260)	*	1
	1-3	84-455-001-010		LID,CASSETTE L(B) (HS-T23)	*	1
	1-3	84-455-012-010		LID,CASSETTE L(S) (HS-T23)	*	1
	1-3	84-455-014-010		LID,CASSETTE YU(S) (HS-T230)	*	1
	1-3	84-455-013-010		LID,CASSETTE L(WR) (HS-T23)	*	1
	1-3	84-455-002-010		LID,CASSETTE H(B) (HS-T26)	*	1
	1-3	84-455-020-010		LID,CASSETTE YU(B) (HS-T260)	*	1
	1-3	84-455-018-010		LID,CASSETTE H(S) (HS-T26)	*	1
	1-3	84-455-019-010		LID,CASSETTE H(WR) (HS-T26)	*	1
	1-4	*84-455-201-010		HOLDER,CASSETTE	*	1
	1-5	84-400-017-010		KNOB,TU	HS-T06	1
	1-6	84-400-217-010		T-SPRING,CLICK	HS-T06	1
	1-7	*84-447-202-010		HOLDER,FRAME	HS-T36	1
	1-8	84-447-210-010		BATTERY TERMINAL PL	HS-T36	1
	1-9	84-400-216-110		BATTERY TERMINAL (-)	HS-T06	1
	1-10	*84-447-004-010		FRAME,CASSETTE(B)	HS-T36	1
	1-10	*84-447-037-010		FRAME,CASSETTE(S,WR)	HS-T36	1
	1-11	*84-400-204-110		P-SPRING,UP	HS-T06	1
	1-12	84-447-012-010		PUSH-BUTTON,OPEN	HS-T36	1
	1-13	*84-447-206-010		LEVER,LOCK	HS-T36	1
	1-14	*84-400-212-110		GEAR,PINION	HS-T06	1
	1-15	*84-447-207-010		FRAME,TU	HS-T36	1
	1-16	---		G CUSHION 5-3-2		1
	1-17	84-447-009-010		PUSH-BUTTON,STOP	HS-T36	1
	1-18	84-455-011-010		PUSH-BUTTON,PLAY		1
	1-19	84-447-008-010		PUSH-BUTTON,REW	HS-T36	1
	1-20	*84-447-007-010		PUSH-BUTTON,FF	HS-T36	1
	1-21	---		HOLDER,ANT C		1
	1-22	82-690-012-110		KNOB,VOLUME		1
	1-23	---		HOLDER,ANT D		1
	1-24	*84-400-206-010		PLATE,NUT	HS-T06	1
	1-25	*84-447-003-010		PANEL,CONTROL	HS-T36	1
	1-26	*84-455-010-010		NAME PLATE,CONTROL	*	1
	1-27	*84-455-008-010		NAME PLATE,SIDE L	*	1
	1-28	84-447-013-010		KNOB,SLIDE A	HS-T36	3
	1-29	84-447-023-010		LID,BATTERY(B)	HS-T36	1
	1-29	84-447-024-010		LID,BATTERY(S)	HS-T36	1
	1-29	84-447-025-010		LID,BATTERY(WR)	HS-T36	1
	1-30	*84-447-001-010		CABINET,REAR(B) (HS-T26/T260)	HS-T36	1
	1-30	*84-447-027-010		CABINET,REAR(S) (HS-T26)	HS-T36	1
	1-30	*84-447-028-010		CABINET,REAR(WR) (HS-T26)	HS-T36	1
	1-30	84-455-005-010		CABINET,REAR L(B) (HS-T23)	*	1
	1-30	84-455-015-010		CABINET,REAR L(S) (HS-T23/T230)	*	1
	1-30	84-455-016-010		CABINET,REAR L(WR) (HS-T23)	*	1
	1-31	---		LABEL,SPEC		1
	1-32	---		PVC SHIELD SHEET		1
	1-33	84-400-211-010		GEAR,VC	HS-T06	1
	1-34	*84-447-018-010		POINTER	HS-T36	1

EXPLODED VIEW-2

REF. NO.	PART NO.	DESCRIPTION
A	S9-762-000-000	V+1.7×1.6
B	S9-845-000-000	V+1.7×2
C	S9-835-000-000	V+1.7×2.5
D	S9-836-000-000	V+1.7×2.5(3)
E	S9-764-000-000	V+1.7×3.5
F	S9-846-000-000	V+1.7×6.5(1)
G	S9-994-000-000	Special screw ⊕ ⊖2×4
H	S9-003-000-000	V+2×5
I	S9-767-000-000	Q+1.7×2.5
J	S9-835-000-000	V+1.7×2.5
K	S9-421-000-000	PW1.2×3×0.25(Cut)
L	S9-888-000-000	PW1.2×3×0.4(Cut)
M	S9-877-000-000	PW1.55×3.5×0.5(Cut)
N	S9-419-000-000	PW1.6×3.8×0.25
O	S9-786-000-000	PW2×3.5×0.3
P	S9-377-000-000	NW2×7×0.5
Q	S9-889-000-000	PW2.1×3×0.3
R	S9-868-000-000	PW2.6×4.3×0.13
S	S9-870-000-000	PW4.6×9×0.13
T	S9-978-000-000	V+1.7×5.5



PART NO. CHANGED TO	REF. NO.	PART NO.	ORDER	DESCRIPTION	COMMON MODEL	Q, TY
	2-1	---		SHASSIS ASSY		1
	2-2	*S1-852-150-030		SPRING PLATE,PACK BEARING		1
	2-3	S1-852-070-030		GEAR,FF		2
	2-4	*S1-852-070-040		SPRING,FF GEAR ARM		1
	2-5	*S1-852-083-010		FF GEAR ARM R ASSY		1
	2-6	*S1-852-050-040		COLLAR,ARM		2
	2-7	*S1-852-040-040		SPRING,PINCH ROLLER F		1
	2-8	*S1-852-040-010		PANEL,HEAD		1
	2-9	*S1-852-040-020		GUIDE,TAPE		1
	2-10	*S1-852-040-030		SPRING PLATE,HEAD		1
	2-11	*S1-852-160-080		BRACKET,CIRCUIT BOARD		1
	2-12	*S1-852-050-060		COLLAR,T. ARM		1
	2-13	*S1-852-053-010		T. GEAR ARM F ASSY		1
	2-14	*S1-852-073-010		FF GEAR ARM F ASSY		1
	2-15	S1-852-050-030		GEAR,T. CAM F		1
	2-16	S1-852-095-010		PINCH ROLLER ARM F ASSY		1
	2-17	*S1-852-050-050		SPRING,T. GEAR ARM		1
	2-18	S1-852-140-010		PULLEY M		1
	2-19	S1-852-130-010		CENTER PULLEY		1
	2-20	S1-821-121-760		BELT		1
	2-21	S1-852-114-040		REEL ASSY		1
	2-22	*S1-852-110-130		SPRING,B.T.		1
	2-23	S1-852-114-030		REEL ASSY A		1
	2-24	*S1-852-110-270		DETECTION PLATE A		1
	2-25	*S1-852-110-290		SPRING A,B.T.		1
	2-26	*S1-852-113-060		REEL PLATE ASSY		1
	2-27	*S1-852-110-190		AUTO CONTROL ARM F		1
	2-28	*S1-852-110-260		COLLAR,AUTO CONTROL		2
	2-29	*S1-852-110-140		LEVER F,AUTO		1
	2-30	*S1-852-110-150		SPRING,AUTO LEVER F		1
	2-31	*S1-852-110-160		COLLAR,AUTO LEVER		1
	2-32	*S1-852-025-040		BUTTON BASE ASSY		1
	2-33	*S1-852-125-070		FLYWHEEL ASSY R		1
	2-34	*S1-852-125-060		FLYWHEEL ASSY F		1
	2-35	S1-821-121-740		MAIN BELT		1
	2-36	*S1-852-020-060		LEVER,STOP		1
	2-37	*S1-852-020-120		SPRING,LEVER		3
	2-38	*S1-852-020-050		LEVER R,FF		1
	2-39	*S1-852-020-030		PLATE,HP		1
	2-40	*S1-852-020-040		LEVER F,FF		1
	2-41	*S1-852-020-320		SPRING,HP		1
	2-42	*S1-852-020-140		SPRING,RC		1
	2-43	*S1-852-020-070		PLATE,HOLD		1
	2-44	*S1-852-020-300		ACTUATING PLATE,LOCK		1
	2-45	*S1-852-020-090		ACTUATING PLATE,SWITCH		1
	2-46	*S1-852-020-150		SPRING,ACTUATING PLATE		1
	2-47	*S1-852-020-100		COLLAR,ACTUATING PLATE		1
	2-48	*S1-852-020-290		COLLAR F,ACTUATING PLATE		1

Note When placing an order for service parts, always enter the parts code number up to the last numeral on the service parts ordering sheet.